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ABSTRACT

The purpose of this paper is threefold: to describe grounded theory research strategies, to present a summary of several studies in education that have followed this approach, and to explore the potential uses of the grounded theory techniques in curriculum theory generation. The paper is arranged into six parts. In the first and second parts of the paper the background for grounded theory research is discussed. Primarily a pragmatic, inductive approach, it is a comparative method which alternates data collection and data analysis. Before any hypotheses are defined, data are collected, coded, and arranged into concepts. Then, an analysis of these concepts is made to develop working hypotheses and provide direction for the next stage of data collection. Alternating states of data collection and analysis follow in a refining process. The third part of the paper briefly describes several studies that have been done using the grounded theory approach. These include a study to explain the intragroup dimensions of interdisciplinary teaching teams; a study on the process of teacher change brought about by inservice education; and a study on the role personalization of beginning secondary teachers. The fourth section focuses on new applications of grounded research in the curriculum field. The fifth section discusses planning a grounded study of curriculum design and implementation. Section six, a conclusion, mentions the general advantages of grounded theory research--it is in touch with actual educational situations and it is a holistic and expansive approach. (Author/NE)

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Generating Curriculum Theory Through Grounded Theory Research

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A paper presented at the Annual Meeting of the
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Generating Curriculum Theory Through
Grounded Theory Research

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In this realm one cannot prove anything
but one can point out a great deal
Heidegger,
Preface to "Identity and Difference"
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The purpose of this paper is threefold: to describe grounded theory research strategies, to present a summary of several studies in education that have followed this approach, and to explore the potential uses of the grounded theory techniques in curriculum theory generation.

In order to focus the paper on these three purposes, we will assume that the reader is in agreement with the need for curriculum theory, believes such theory can be generated, and accepts broad definitions of such terms as data, empirical, and research. We will leave to other papers an exploration of grounded theory's relationship to logical positivism and to the emergent reconceptualist perspective.

Background

Grounded theory research, best described by Glaser and Strauss (1967), is not at all glamorous, not at all esoteric, not at all "grand." It is, instead, pragmatic and sensible--sensible, that is, as are "good sensible shoes" and sensible in that it is the application of one's senses to a phenomenon in order to know it. Unlike much past research, grounded theory research is not an attempt to verify existing theory through the testing of hypotheses. Rather, it is primarily an inductive system for generating theory. At its heart is the constant comparative method which alternates data collection and data analysis. Before any hypotheses are defined, data

are collected, coded, and arranged into theoretical concepts (categories) and the elements of these concepts (properties). Then, an analysis of these categories and their properties is made to develop working hypotheses and provide direction for the next stage of data collection. Alternating stages of data collection and analysis follow, in which later data are collected and compared with the tentative categories and hypotheses. The theory is presented to others when this constant comparison has produced a condition that Glaser and Strauss call "saturation"--when terminology has been established, modification of the categories and properties has decreased, and interrelationships have been identified. If carefully applied, this procedure insures a theory close to the data. Data have not inadvertently been forced to fit a preexisting theory but can be highly integrated and functional in developing prescriptions for the situation studied.

The theory generated through this approach is likely to be categorized as substantive, meaning theory that is developed for a relatively specific area of inquiry in a given context. This is contrasted with formal theory which has a higher degree of conceptual abstractness and generalizability (Glaser & Strauss, 1967, pp. 32-35).

Glaser and Strauss's book, Discovery of Grounded Theory, was published in 1967. For a while, their own reports, Awareness of Dying (1965) and Time for Dying (1968), were the primary examples of substantive works acknowledging the grounded theory base. Glaser and Strauss discovered substantive theories to explain the behavior of persons caring for sick and dying people. A later book, Status Passage (1971), presented their more abstract, formal theory resulting from the earlier work on dying.

Grounded Theory Research

What do researchers do when carrying out grounded theory research? They start by delineating a topic or situation of interest/concern about which they wish to generate theory. Having specified the situation of

interest about which theory is to be generated, they search for an initial, appropriate data gathering technique.* Notice that the term initial appears here, for the grounded theory approach assumes that because the end sought is theory, not indisputable verification, researchers may need to use several data gathering methods in the course of their work. A broad array of methods may be called for, not the least of which is likely to be naturalistic field work. The researchers will not be tied to a single, predetermined method, but may abandon a method if it no longer suffices to generate more theory, and move to another mode that is more fruitful. They may begin with observations, move to interviews, then to a review of critical documents, and then back again to observations or interviews.

In the same practical spirit, the researchers may begin examining a given situation with certain involved participants, but then may change or add sites, and add or eliminate participants. The choice of sites and participants is by no means a matter of convenience, but rather is based on

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* Open-mindedness is one of the major characteristics required for developing grounded theory. Data should not be forced to fit prior speculations or borrowed hypotheses. Such borrowed hypotheses can, indeed, be most troublesome. For that very reason, the traditional requirement of an exhaustive review of literature prior to development of the study can have a stultifying effect in theory-building research. It is not that grounded theory research requires no familiarity with the area of investigation, but a precipitous reliance on related theory and research can inhibit the researchers' ability to generate theory from the data. In the later stages of analysis, a careful search of the literature becomes desirable. At that point the theoretical constructs of others may bring insight. Continued reading at this late period in theory development may lead to a wider variety of sources, often carrying them into disciplines not earlier recognized as related.

the selection of samples that are likely to further the development of emerging theoretical categories. So, for example, in a grounded theory study by one of the authors of the role personalization of beginning secondary teachers (Gehrke, 1976), men and women teachers were studied who were beginning at three very different large urban high schools, who were of widely varying ages (22-36) and backgrounds, and who taught many different subjects. If researchers were to continue the study, they would certainly want to include teachers in elementary and middle schools and those in rural and small schools.

As Glaser and Strauss say:

> Beyond the decisions concerning initial collection of data, further collection cannot be planned in advance of emerging theory (as is done so carefully in research designed for verification and description). The emerging theory points to the next steps--the sociologist does not know them until he is guided by emerging gaps in his theory and by research questions suggested by previous (p. 47).

Choosing groups or individuals for their potential usefulness in generating theoretical categories and properties is termed <u>theoretical sampling</u>. Glaser and Strauss contrast this with <u>statistical sampling</u>, which is done to obtain accurate evidence on distributions of people among categories for use in descriptions or verifications.

While theoretical sampling is a crucial element in grounded theory research and deserves much attention, the most distinguishing feature of the approach is the interlocking character of the data gathering and analysis phases. Unlike traditional research where data are all gathered first and analyzed later, the procedure for generating grounded theory alternates between data gathering and data analysis. Analysis of one layer of data may produce tentative hypotheses that can then send the researcher back for more data to verify, expand, or modify them. Thus a study using observations and interviews may be initiated by a period of extensive field work

recorded in notes and on tape. However, researchers will not only be attempting daily analysis of notes, they may also stop gathering data for a time in order to analyze and begin generating categories and properties of the theory. Then data gathering will continue, but now it will be directed and informed by the analysis of previous data.

This constant return to the data base illustrates how verification is built into the theory generation system, although that verification may not be psychometric in nature. Glaser and Strauss, in fact, strongly object to using tests of statistical significance in the identification of categories, properties, and interrelationships. (The reader may wish to consult their remarks, 1967, pp. 200-203.)

At the heart of grounded theory generation is the constant comparative method of data analysis, a method where each incident or bit is coded (or labeled) and compared with every other incident for similarities and differences. This coding begins to produce categories and properties--that is, general concepts and supporting concepts--of the examined situation. As these categories emerge, they are integrated; relationships among them are identified. As data gathering and analysis proceed, the researcher begins to delimit the basic theoretical framework, establishing boundaries for its scope, reducing terminology, and formulating the theory with an increasingly smaller set of higher level concepts.

Finally, the theory is written in essay form with the major categories providing divisions of the work, or it is presented in formalized propositions. But here, grounded theory is also a bit different.

Even as it is presented, it is considered a theory-in-process. Researchers expect, even welcome, refinements and extensions of the theory. Although they feel confident that the theory generated will be useful in application because it has arisen from examination of the situation in which it is most likely to be applied, they also recognize that other persons, looking at the situation from other perspectives, might well be able to modify or extend the work. Glaser and Strauss were quite adamant, and our experience brings agreement, that researchers who generate theory

by the constant comparative method of grounded theory research have an inordinately deep faith in the credibility of their theory because it has arisen from their own hard-won analysis and experience in the situation, not just from armchair speculation. They are also firm in the belief that theory is never finished; it is always evolving (Glaser & Strauss, 1967, pp. 224-228).

Grounded Theory Research in Education

Let us look very briefly at several studies that have been done using the grounded theory approach to theory generation in education. While this introduction can give the reader only a quick review of the study topics and procedures, it may help to illustrate the many productive areas in which the grounded theory approach can be useful in generating theory.

The earliest study found is the dissertation work of D'Lamater (1975), in which he generated propositions to explain the intragroup dimensions of interdisciplinary teaching teams. Based on interviews with members of such teaching teams, D'Lamater generated categories and properties very similar to those of a small group communications model by Burgoon, Heston, and McCrosky (1974). Concerned that he be thought presumptious if he proposed a theory, D'Lamater called his development a "model" and more or less adapted the Burgoon et al. model to fit his own findings.

Working at the same time but reporting a year later, Gehrke (1976), who has always been much more presumptious, presented a study on the role personalization of beginning secondary teachers. This study, based on interviews and observations of teachers in their first year of teaching, presented a theory-in-process in both essay and formal proposition forms, about the ways teachers adapt the teaching role to meet their own needs while being socialized to the teaching role by others. Gehrke subsequently followed the teachers of the original study for five years, refining the theory and adding dimensions (1978, 1979a, 1979b, 1982).

In 1979 Thompson completed a study on the process of teacher change

brought about by inservice education. Using interviews, surveys, and papers written by sixteen teachers during and following an intensive teachers' writing project, Thompson generated a series of integrated propositions about influences, conditions, and teacher intentions related to change. She further generated propositions about the stages of teacher change.*

In 1978 Conrad reported a study completed at the University of Michigan in an effort to generate a theory of academic change in higher education. He gathered data at four separate institutions through interviews, documents, and transcripts of meetings. Conrad used the constant comparative method to build an integrated theory about the process of change, and the roles of change agents and power groups within the process.

At the same time Conrad was reporting his work, Browning (1978) described his speech-communication study, done as dissertation research at the Ohio State University. His work resulted in an organizational communication theory based on qualitative data from a single case study of a regional land use and transportation planning agency. Here comparative analysis was done, not between two or more organizational sites, but between data collected from many sources within a single group. Gilchrist and Browning (1981) have subsequently done similar single case work in an

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* The reader may be interested to note that all the above studies were done at Arizona State University by Ph.D. candidates in Curriculum and Instruction. Two persons are primarily responsible for the introduction and continued use of grounded theory strategies there. They are Kaoru Yamamoto, who introduced the concept and guided the first studies; and Nelson Haggerson, who has continued to explore it and encourage its use by graduate students. See Haggerson's recent paper with Garman on this, delivered at the 1981 Curriculum Conference, Airlie House, West Virgina.

effort to generate a communications model for training in negotiation skills. The propositions they identified about effective negotiation skills taken together "constituted an abstract normative model grounded in the specific context" (1981, p. 275). The training that resulted was specifically tailored to the actual experience of the trainees, and was found to be highly effective in producing behavioral changes in the desired areas.

These studies have been briefly introduced here to suggest the many activities in education about which it is possible to generate useful theory. As Gilchrist and Browning's work illustrates particularly well, there is no great leap from theory to practice when the theory is generated from data gathered in the situation where it will be put into practice. The substantive theory generated may or may not be generalizable to a vast array of other situations, but then we have been widely cautioned against the continued search for formal, more widely generalizable theory by Schwab (1969). He and others have warned about the loss of practicality as theory becomes increasingly abstracted and removed from specific contexts.

So far, then, we have tried to give you a brief introduction to the method of grounded theory research and several examples of studies in education that have used the approach. Although this abbreviated examination of grounded theory research may still leave it a bit vague in the mind of the reader, we would like to bring the focus to new applications of grounded theory research in education and in curriculum in particular.

Grounded Theory Research in the Curriculum Field

Curricularists have been among the most vocal in exhorting each other to generate theory. The kind of theory and purposes to which it would be put have been debated, but the need has not. However, exhortations reveal that we are suffering from a messianic complex--a belief that, if we are faithful, a savior will arise (in this case, a curriculum theorist) who will provide us with a grand theory to encompass all elements of curriculum

and do for us what most of us do not seem to be educated or trained to do for ourselves.

We believe that such a curricular Messiah is unlikely to arrive and that, instead, we should be about the work of generating substantive, grounded curriculum that, while perhaps not grand in the classical sense, will be real theory nevertheless, will be more honorable work than much in which we are now engaged, and will be far more useful in explaining or guiding curriculum practice. In short, we believe that generating theory about limited aspects of curriculum is better than no theory at all and may, in fact, be better than a too-grand theory. Because we are unwilling to wait for the coming of the "grand curricularist," we must begin to use our heads (after Cronbach, 1975).

We can begin the generation of grounded theory by tackling smaller aspects of the curriculum field (rather than the whole thing), and here several persons have suggested organizers (Beauchamp, 1981; Faix, 1966; Maccia, 1965; MacDonald, 1964; Walker, 1971). Beauchamp's organizers may be the most widely known because of his continuing efforts to stimulate curriculum theorizing, so we will use them here without debating the relative merits of any of the others.

As you will remember, Beauchamp has suggested that curricular theory has two primary areas, curriculum design and curriculum engineering. Design questions include what should be taught, what form it should take, and what its depth and breadth should be. Engineering questions are those concerned with how curriculum is planned, implemented, and evaluated.* Theory generation in curriculum might focus on any one of the many design

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* Some may disagree with the inclusion of the second category, but we are prone to include it under the belief that how one plans, implements, and evaluates curricula is too highly integrated with what one designs to be placed into a completely different theory realm.

or engineering components and on the relationships among the components. Given the dearth of curriculum research and theory decried by all, there really is no area that we could call "saturated" yet, so the researcher's interests could lead into any element without fear of duplication. Perhaps the one area where more has been done to generate theory than elsewhere is curriculum implementation. But even there the field will admit of much continued examination. Certainly the relationship between curriculum design elements and curriculum implementation has been little studied. On this topic, for example, we might explore and generate theory about the relationship between the format in which a planned curriculum is presented to teachers and the implementation of that curriculum.

Planning a Grounded Study of Curriculum Design and Implementation

If we are to begin to plan a study to examine this interrelationship, what steps might we take? We would begin by locating situations in which curricula were being implemented. We would want to study a number of these implementation processes rather than just one. (But we might, if we wished to be highly focused and practical--as were Gilchrist and Browning--want to focus on a single specific context, say a given school district trying to implement a particular curriculum.) Selecting the initial cases for study would involve examining the curriculum design and implementation procedures of each case for apparent similarities and differences and ultimately choosing those that would appear to maximize and minimize differences in a manner to support theory generation.

We might look at situations in which the new curriculum plan was provided to the teachers in a 300-page, fully developed curriculum guide, and at a situation where the teachers were introduced to the general aims or goals of the new curriculum in a brief, five-page paper but were given no specified objectives, pre-planned learning experiences, or resource directions. Certainly we might suppose that one format will elicit a very different kind of implementation than the other, but the actuality may well be

far more complex than that. We may find that neither one (or both) is implemented with any reasonable fidelity, or that each one is implemented by only certain teachers or in certain schools. But basically we will choose the sites where our own knowledge of the phenomenon suggests that we are likely to find great contrasts and/or similarities.

We will also choose one or more initial data gathering techniques. No doubt we will want to do a critical analysis of the curriculum documents from each situation to discern the structure of each. We will want to ascertain through interview, and perhaps review of letters, memoranda, etc., the history of the development project with particular focus on decisions about the plan format and plans for implementation. We will, if the situation permits, begin observation of the process as the curriculum is developed--sitting in on meetings, perhaps taping them for later transcription and review. If the planning has already occurred, we may observe efforts to implement the curriculum: the preparations of the district for presentation; the plans for inservice (if any); the teachers' first encounter with 'the document'; the actual inservice sessions; teachers' work sessions; and teachers' delivering instruction based on the curriculum. Interviews with planners and curriculum recipients will be necessary to gain information, especially about occurrences not open to observation, such as unplanned meetings, private dialogues, and passing remarks or incidents.

Records will be kept of all events and will be reviewed or analyzed as each layer of data is added. Notes from document analysis and transcriptions of meetings and interviews must be kept in a form that allows coding. (We have found that wide margins are necessary on transcripts. The addition of a "coding strip" to an already prepared sheet is also an alternative.)

The search for potential categories and properties of the situation begins in the first days of data gathering. The basic question the researchers constantly put to themselves is: What are the similarities between the situations, and what are the differences?

There are all kinds of techniques for gathering data from interviews,

observations, and documents--skills that have been taught, learned, and applied in many cases. What ultimately does not seem to be as teachable is recognizing categories, properties, and interrelationships. It is here that researchers have the hardest time explaining grounded theory work; it is here where they can panic; and it is, of course, here that theory is built.

As researchers talk with, watch, and study the evolving curriculum implementation they are generating hypotheses. Perhaps, rather than being parsimonious with this generation, it is best to be generous--to generate many hypotheses. Then the researchers check them out against previously collected data or against new information sought in a return to the original situations or by extending the search to new situations. Perhaps, after studying two or three implementation situations, the researchers would find it desirable to look for an alternate site where the participants are engaged in textbook and resource selection and implementation because so many practitioners call this curriculum planning and implementation. Perhaps they could find places where there seemed to be no written documents but where all agreed there was still a tacit curriculum.

At some point, the researchers would begin to find that adding new sites where there might be further permutations of curriculum design elements and implementation patterns was not producing additional categories, properties, or interrelationships, i.e., they would reach a point of saturation. In reality, it is far more likely that they will first run out of money, time, or open access to the situations of interest, than that they will saturate categories. (More likely still is that they are first forced to make good on a promised paper.) The format-implementation theory --or theory-in-process as we prefer to call it--would then be presented. Most likely, it would be offered in discussion rather than formal propositional form, and would be illustrated for the reader by the liberal use of examples drawn from the situations studied.

Conclusion

We are enthusiastic at the prospect of joining with other curricularists in the discovery of grounded theory about this and other topics in the field of curriculum. While no panacea, grounded theory research provides us with tools with which we can abandon the dutiful wait for a grand theorist and get down to the business of "using our heads" and generating integrated, functional grounded theory ourselves.

Reviewing the reports of studies done in education and out, one cannot help but be impressed by the practical nature of the theory generated. Implications for practice seem to leap off the page. This kind of middle range theory is not far removed from the now-classic demand by Schwab for "the Practical" (1969). Substantive theory, grounded in the data of rather specific situations, seems far more likely to prove practical in deliberation than grand theory that has arisen from logico-deductive efforts.

To close, we will mention three general advantages of grounded theory research. First, there is the very clear advantage of the development of theory grounded in the education situation rather than borrowed from other realms. The lack of this uniquely educational theory has been the subject of much discussion in the past twenty years. It appears that some have even considerably enhanced their reputations by their eloquent pleas for theory. All seem to agree that until such theory is generated, some problems in education will not be solved.

A second advantage lies in the holistic focus of grounded theory research. While educational research often emphasizes proof of specific portions of behavioral science theories, grounded theory research focuses on the system as a whole and the interrelationships of its parts. This can be seen as a disadvantage to those concerned with specificity and quantification. However, as important as this quantification may be, it must be acknowledged that such specificity carried with it a fragmented perspective which can reduce the conceptual or prescriptive power of a holistic approach.

An additional advantage cum disadvantage is the very expansive nature

of grounded theory research. The researchers enter the study of a problematic situation with the goal of developing a theory to explain it. As analysis proceeds, it soon becomes evident that the elements and their interrelationships are far more complex than originally estimated. Whether one began from a fragment that escalates, or from a vague overview that 'complexifies,' the investigation frequently grows beyond the expected limits. If the researchers were to realize initially the dimension of the final product, they might be reluctant to begin such a study. On the other hand, the lack of preconception which accompanies this initial naivete provides a fertile background for open-minded analysis of the data.

These advantages lead us to propose grounded theory research to the curriculum field, not merely because it is an approach to theory building that provides a real alternative to waiting, but also because grounded theory research is intimate with actual substantial educational situations and because it is a holistic and expansive approach that seems very likely to work.

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> What we in curriculum society need are paradigms for conducting research in a context of discovery to match existing paradigms available from the research traditions of the behavioral social sciences for the context of varification.
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> Walker, 1973

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> There are more things in heaven and earth than are dreamt of in our hypotheses.
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> Cronbach, 1975

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